

IN THE CLAIMS:

Please amend Claims 6, 27, 32 and 37, and add new Claims 42 to 47 as shown below. The claims, as pending in the subject application, now read as follows:

1. to 5. (Canceled)

6. (Currently amended) A print control apparatus as a host computer which is connected to an external printing apparatus through an interface and executes a printer driver which generates print data described in the page description language to be interpreted by the external printing apparatus, comprising:

a spooler that saves intermediate data to be converted into the print data ~~and converted from graphic information generated by a graphic engine based on a print request from an application~~, together with a ~~first designated~~ number of copies ~~designated to be used for printing the print data in accordance with a print instruction from an application of a document to be printed based on the saved data;~~

a ~~changing unit~~ ~~spool file manager~~ that checks if a print instruction is a test print instruction, that changes the ~~first~~ number of copies to ~~a second number of copies for the test print~~ ~~1~~ when the test print is instructed, and that outputs the intermediate data saved in the spooler together with the number of copies which has been changed to ~~1~~ for the test print in response to the print instruction for printing at the print apparatus;

a generating ~~generation~~ unit that generates the print data with the printer driver based on the intermediate data and the second number of copies ~~which has been changed to 1~~ for the test print changed ~~outputted~~ by said changing unit ~~spool-file manager~~; and

a transmitting ~~transmission~~ unit that transmits the print data generated by said generating unit to the printing apparatus[.];

a receiving unit that receives a setup change instruction using a setting screen of the printer driver after the print data for the test print is transmitted by said transmission unit, wherein the setup change instruction is instruction that instructs the printer to print an image different from the image printed on a printing paper by the test print; and

a generating control unit that changes the second number of copies for the test print to the first number of copies without an instruction from a user when the setup change instruction has been received, and instructs the printer driver to generate the print data to be used for printing after the test print using the second number copies, the intermediate data spooled by said spooler and a setup changed based on the setup change instruction

wherein, when a test print is instructed, said generation unit generates the print data which is described in the page description language with the number of copies which has been changed to 1 for a test print, and

wherein, when normal print of the document is instructed after the print data for the test print generated by said generating unit has been transmitted to the printing apparatus, said generating unit reads the intermediate data saved by the spooler and

~~generates the print data which is described in the page description language with the printer driver.~~

7. (Original) The apparatus according to claim 6, wherein when the print instruction is not the test print instruction, said spool file manager deletes the output data from said spooler.

8. (Previously presented) The apparatus according to claim 6, wherein when the print instruction is the test print instruction, said generation unit generates the print data with a number of copies having a value obtained by subtracting the number of copies output in a test print process from the designated number of copies after said spool file manager outputs the data.

9. (Previously presented) The apparatus according to claim 6, wherein the intermediate data stored in said spooler is data before being converted into a format to be output to the printing apparatus, and when the print instruction is the test print instruction, said spool file manager changes a setup related to a content to be printed associated with the intermediate data saved in said spooler after said spool file manager outputs the intermediate data, and

wherein said generating unit reads the intermediate data saved in the spooler and generates print data based on the setup related to the content to be printed and the intermediate data with the printer driver when the setup related to the content to be printed has been changed.

10. (Previously presented) The apparatus according to claim 9, wherein said spool file manager changes the number of copies associated with the data saved in said spooler after said spool file manager outputs the data when the print instruction is the test print instruction, and resets the number of copies to the designated number of copies when the print instruction is not the test print instruction and when the number of copies has been changed.

11. (Original) A print system which is constructed by connecting a print control apparatus of claim 6 and a printing apparatus and prints based on data output from output step of said print control apparatus.

12. to 26. (Canceled)

27. (Currently amended) A print control apparatus as a host computer which is connected to an external printing apparatus through an interface and executes a printer driver which generates print data described in the page description language to be interpreted by the external printing apparatus comprising:

pooling means for saving intermediate data to be converted into the print data ~~and converted from graphic information generated by a graphic engine based on a print request from an application,~~ together with a first designated number of copies designated to be used for printing the print data in accordance with a print instruction from an application;

changing spool file managing means for checking if a print instruction is a test print instruction, changing the first number of copies to a second number of copies for the test print [[1]] when the test print is instructed, ~~and outputting the intermediate data saved in the spooling means together with the number of copies which has been changed to 1~~ for the test print in response to the print instruction for printing at the print apparatus;

generating generation means for generating the print data with the printer driver based on the intermediate data and the number of copies ~~which has been changed to 1~~ for the test print changed outputted by said changing spool file managing means; and

transmitting a transmission means that transmits the print data generated by said generating means to the printing apparatus[[,]];

receiving means for receiving a setup change instruction using a setting screen of the printer driver after the print data for the test print is transmitted by said transmitting means, wherein the setup change instruction is instruction that instructs the printer to print an image different from the image printed on a printing paper by the test print; and

a generating control step that changes the second number of copies for the test print to the first number of copies without an instruction from a user when the setup change instruction has been received, and instructs the printer driver to generate the print data to be used for printing after the test print using the second number of copies, the intermediate data spooled by said spooler and a setup changed based on the setup change instruction

~~wherein, when a test print is instructed, said generation means generates the print data which is described in the page description language with the number of copies which has been changed to 1 for a test print, and~~

~~wherein, when normal print of the document is instructed after the print data for the test print generated by said generating means has been transmitted to the printing apparatus, said generating means reads intermediate the data saved by the spooler and generates the print data which is described in the page description language with the printer driver.~~

28. (Previously presented) The apparatus according to claim 27, wherein when the print instruction is not the test print instruction, said spool file managing means deletes the output data from said spooling means.

29. (Previously presented) The apparatus according to claim 27, wherein when the print instruction is the test print instruction, said generation means generates the print data with a number of copies having a value obtained by subtracting the number of copies output in a test print process from the designated number of copies after said spool file managing means outputs the data.

30. (Previously presented) The apparatus according to claim 27, wherein the intermediate data stored in said spooling means is data before being converted into a format to be output to the printing apparatus, and when the print instruction is the test print instruction, said spool file managing means changes a setup related to a content to be

printed associated with the intermediate data saved by said spooling means after said spool file managing means outputs the intermediate data, and

wherein said generating unit reads the intermediate data saved in the spooler and generates print data based on the setup related to the content to be printed and the intermediate data with the printer driver when the setup related to the content to be printed has been changed.

31. (Previously presented) The apparatus according to claim 30, wherein said spool file managing means changes the number of copies associated with the data saved by said spooling means after said spool file managing means outputs the data when the print instruction is the test print instruction, and resets the number of copies to the designated number of copies when the print instruction is not the test print instruction and when the number of copies has been changed.

32. (Currently amended) A print control method at a host computer which is connected to an external printing apparatus through an interface and executes a printer driver which generates print data described in the page description language to be interpreted by the external printing apparatus, comprising:

a saving step of saving intermediate data to be converted into the print data ~~and converted from graphic information generated by a graphic engine based on a print request from an application~~, together with a first designated number of copies designated to be used for printing the print data in accordance with a print instruction from an application of a document to be printed based on the saved data;

a changing spool file managing step of checking if a print instruction is a test print instruction, changing the first number of copies to a second number of copies for the test print [[1]] when the test print is instructed, ~~and outputting the intermediate data saved in the spool file together with the number of copies which has been changed to 1 for the test print in response to the print instruction for printing at the print apparatus;~~

a generating step of generating the print data with the printer driver based on the intermediate data and the second number of copies ~~which has been changed to 1~~ for the test print changed outputted in said changing step spool file managing; and

a transmission step that transmits the print data generated by said generating step to the printing apparatus[.,,];

a receiving step that receives a setup change instruction using a setting screen of the printer driver after the print data for the test print is transmitted in said transmission step, wherein the setup change instruction is instruction that instructs the printer to print an image different from the image printed on a printing paper by the test print; and

a generating control step that change sthe second number of copies for the test print to the first number of copies without an instruction from a user when the setup change instruction has been received, and instructs the printer driver to generate the print data to be used for printing after the test print using the second number of copies, the intermediate data spooled by said spooler and a setup changed based on the setup change instruction

wherein, when a test print is instructed, said generating step generates the print data which is described in the page description language with the number of copies



which has been changed to 1 for a test print when print of the document is instructed after the print data for the test print generated by said generating step has been transmitted to the printing apparatus, said generating step reads the intermediate data saved by the spooler and generates the print data which is described in the page description language with the printer driver.

33. (Previously presented) The method according to claim 32, wherein said spool file managing step further includes a step of deleting the output data from the spool file when the print instruction is not the test print instruction.

34. (Previously presented) The method according to claim 32, wherein said generating step further includes a step of, when the print instruction is the test print instruction, generating the print data with a number of copies having a value obtained by subtracting the number of copies output in a test print process from the designated number of copies after the data is output in said spool file managing step.

35. (Previously presented) The method according to claim 32, wherein the intermediate data stored in the spool file is data before being converted into a format to be output to the printing apparatus,

wherein said spool file managing step further includes a step of, when the print instruction is the test print instruction, changing a setup related to a content to be printed associated with the intermediate data saved in the spool file after the intermediate data is output in said spool file managing step, and

wherein said generating step includes a step of reading the intermediate data saved in the spooler and generating print data based on the setup related to the content to be printed and the intermediate data with the printer driver when the setup related to the content to be printed has been changed.

36. (Previously presented) The method according to claim 35, wherein said spool file managing step further includes a step of changing the number of copies associated with the data saved in the spool file after outputting the data saved in the spool file together with the number of copies to be printed when the print instruction is the test print instruction, and a step of resetting the number of copies to the designated number of copies when the print instruction is not the test print instruction and when the number of copies has been changed.

37. (Currently amended) A computer program embodied in a computer readable storage medium that is executable in a host computer which is connected to an external printing apparatus through an interface and executes a printer driver which generates print data described in the page description language to be interpreted by the external printing apparatus, comprising:

[[a]] saving procedure code means for saving intermediate data to be converted into the print data ~~and converted from graphic information generated by a graphic engine based on a print request from an application~~, together with a first designated number of copies designated to be used for printing the print data in accordance

with a print instruction from an application of a document to be printed based on the saved data;

[[a]] changing spool file managing procedure code means for checking if a print instruction is a test print instruction, changing the first number of copies to a second number of copies for the test print [[1]] when the test print is instructed; ~~and outputting the intermediate data saved in the spool file together with the number of copies which has been changed to 1 for the test print in response to the print instruction for printing at the print apparatus;~~

[[a]] generating procedure code means for generating the print data with the printer driver based on the intermediate data and the second number of copies ~~which has been changed to 1~~ for the test print changed ~~outputted~~ by said changing spool file managing procedure code means; and

[[a]] transmitting transmission procedure code means for transmitting that transmits the print data generated by said generating procedure code means to the printing apparatus[.];

receiving procedure code means for receiving a setup change instruction using a setting screen of the printer driver after the print data for the test print is transmitted by said transmission procedure code means, wherein the setup change instruction is instruction that instructs the printer to print an image different from the image printed on a printing paper by the test print; and

generating control procedure code means for changing the second number of copies for the test print to the first number of copies without an instruction from a user when the setup change instruction has been received, and instructs the printer driver to

generate the print data to be used for printing after the test print using the second number of copies, the intermediate data spooled by said spooler and a setup changed based on the setup change instruction

wherein, when a test print is instructed, by said generating procedure code means, the print data which is described in the page description language with the number of copies which has been changed to 1 for a test print, and

wherein, when normal print of the document is instructed after the print data for the test print generated by said generating procedure code means has been transmitted to the printing apparatus, said generating procedure code means reads the intermediate data saved by the spooler and generates the print data which is described in the page description language with the printer driver.

38. (Previously presented) The program according to claim 37, wherein said spool file managing procedure code means further includes a step of deleting the output data from the spool file when the print instruction is not the test print instruction.

39. (Previously presented) The program according to claim 37, wherein, when the print instruction is the test print instruction, said generating procedure code means further includes a step of generating the print data with a number of copies having a value obtained by subtracting the number of copies output in a test print process from the designated number of copies after the data saved in the spool file is output by said spool file managing procedure code means.

40. (Previously presented) The method according to claim 37, wherein the intermediate data stored in the spool file is data before being converted into a format to be output to the printing apparatus, and

wherein said spool file managing procedure code means further includes a step of, when the print instruction is the test print instruction, changing a setup related to a content to be printed associated with the intermediate data saved in the spool file after the intermediate data saved in the spool file is output by said spool file managing procedure code means, and

wherein said generating procedure code means reads the intermediate data saved in the spooler and generates print data based on the setup related to the content to be printed and the intermediate data with the printer driver when the setup related to the content to be printed has been changed.

41. (Previously presented) The program according to claim 35, wherein said spool file managing code means further includes a step of changing the number of copies associated with the data saved in the spool file after the data saved in the spool file is output when the print instruction is the test print instruction, and a step of resetting the number of copies to the designated number of copies when the print instruction is not the test print instruction and when the number of copies has been changed.

42. (New) The apparatus according to claim 6, wherein said receiving unit receives a setup change instruction by which the number of pages is laid out on a face of a

printing paper, the number of pages being different from the number of pages set for the test printing.

43. (New) The apparatus according to claim 6, further comprising a determination unit configured to determine whether or not a request for changing setup after a test print is issued, wherein said receiving unit displays a user interface of the printer driver to receive the setup change instruction when the request for changing setup is determined to be issued.

44. (New) The apparatus according to claim 27, wherein said receiving means receives a setup change instruction by which the number of pages is laid out on a face of a printing paper, the number of pages being different from the number of pages set for the test printing.

45. (New) The apparatus according to claim 27, further comprising a determining means for determining whether or not a request for changing setup after a test print is issued, wherein said receiving means displays a user interface of the printer driver to receive the setup change instruction when the request for changing setup is determined to be issued.

46. (New) The method according to claim 32, wherein said receiving step receives a setup change instruction by which the number of pages is laid out on a face of a printing paper, the number of pages being different from the number of pages set for the test printing.

47. (New) The method according to claim 32, further comprising a determining step of determining whether or not a request for changing setup after a test print is issued, wherein said receiving step displays a user interface of the printer driver to receive the setup change instruction when the request for changing setup is determined to be issued.

48. (New) The program according to claim 37, wherein said receiving procedure code means receives a setup change instruction by which the number of pages is laid out on a face of a printing paper, the number of pages being different from the number of pages set for the test printing.

49. (New) The program according to claim 37, further comprising a determining procedure code means for determining whether or not a request for changing setup after a test print is issued, wherein said receiving procedure code means displays a user interface of the printer driver to receive the setup change instruction when the request for changing setup is determined to be issued.